



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR        | ATTORNEY DOCKET NO.            | CONFIRMATION NO. |
|--|-------------|-----------------------------|--------------------------------|------------------|
| 09/802,592   | 03/09/2001  | Philip Edward Arthur Stuart | 60,426-238<br>(00P7642US01)    | 6107             |
| 24500  | 7590        | 01/05/2004                  | EXAMINER<br>PENDLETON, BRIAN T |                  |
| SIEMENS CORPORATION<br>INTELLECTUAL PROPERTY LAW DEPARTMENT<br>170 WOOD AVENUE SOUTH<br>ISELIN, NJ 08830 |             |                             | ART UNIT<br>2644               |                  |
|  |             |                             | PAPER NUMBER                   |                  |

DATE MAILED: 01/05/2004

4

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/802,592

**Applicant(s)**STUART, PHILIP EDWARD  
ARTHUR**Examiner**

Brian T. Pendleton

**Art Unit**

2644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-11 and 13 is/are rejected.
- 7) ☒ Claim(s) 5 and 12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All   b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.                      6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 7, 9 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Tomisawa et al. Tomisawa et al teach an air intake sound control apparatus comprising air inlet duct 3, engine 1, sound detector 46, speaker 45 mounted within the air inlet duct 3, resonator (hollow chamber) 5 positioned between the speaker and engine and controller 9 for receiving the signal from microphone 46 and generating a control signal phase shifted 180 from the air intake sound picked up by the sound detector 46 (see abstract, figure 7 and column 1 lines 48-56). Claims 1 and 9 are met. Inherently, the resonator 5 attenuates low frequency noise from the engine based on its dimensions, meeting claims 2, 7, and 10.

Claims 1, 2, 7, 9 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Everingham. Everingham discloses a system for reducing engine noise comprising air inlet duct 12 connected to engine 14, sound detector 42, speaker 30 facing the inlet duct, resonator 26 and controller 44 for outputting a phase shifted detected signal to the speaker 30 for canceling engine noise. Claims 1 and 9 are met. Inherently, the resonator 5 attenuates low frequency noise from the engine based on its dimensions, meeting claims 2, 7, and 10.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 6, 9, 10 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brackett in view of Tanaka et al. Brackett discloses an active noise control system for an air intake engine comprising air inlet duct 12, speaker 28 and controller 30. The controller 30 is an active noise controller and accordingly the system included a microphone for measuring the noise in the system and said controller produces an out-of-phase signal to cancel the noise. Air filter 14 is positioned behind speaker 28 (per claim 3). Brackett does not teach a resonator positioned between the speaker and engine for reducing low frequency engine noise. Tanaka et al teach an intake sound control apparatus comprising air inlet duct 13, sound detector 4, speaker 3 facing the inlet end, resonator 21 and controller 5. As suggested in column 1 lines 15-17, it was well known to use resonators, as a passive device, in intake pipes for reducing the noise of an internal combustion engine. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to include a resonator in the invention of Brackett since it would have enhanced noise cancellation by supplementing the active noise cancellation already present. As suggested in column 4 lines 64-68 of Tanaka et al, there were many places to position the canceling speaker, so one of ordinary skill in the art would have realized the appropriate position for a

Art Unit: 2644

vehicle without undue experimentation, said position being upstream of the resonator and engine, as claimed, meeting claims 1 and 9. As to claims 2 and 10, the resonator attenuates low frequency noise. Regarding claim 4, the modified Brackett invention would have a resonator between the engine and speaker. Since the air filter 14 is behind and next to the speaker 28, the resonator would have to be mounted next to the air filter. As to claims 6 and 13, the resonator 21 extends outwardly from the air duct housing in Tanaka et al, therefore it was obvious to make the resonator in Brackett extend from the air inlet duct 12.

Claims 8 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Everingham or Tomisawa et al in view of Guenther. Everingham and Tomisawa each teach comprising air inlet duct, engine, sound detector, speaker mounted within the air inlet duct, resonator (hollow chamber) positioned between the speaker and engine and a controller for receiving the signal from the sound detector and generating a control signal phase shifted 180 from the air intake sound picked up by the sound detector. However, the references do not state that the speaker is less than 400 millimeters in diameter. However, such small speakers were well known in the art, as evidenced by Guenther. Taught in column 5 lines 7-22, the speaker was less than 400 millimeters and suggested in the column 1, the speaker was low cost and advantageous for places where weight and size are factors. Vehicles with their limited space would have qualified as such a place. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to use the speaker of Guenther in the inventions of Everingham or Tomisawa et al.

Art Unit: 2644

***Allowable Subject Matter***

Claims 5 and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kato et al, "Active Silencer", US Patent 4,805,733.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian T. Pendleton whose telephone number is (703) 305-9509. The examiner can normally be reached on M-F 7-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester W. Isen can be reached on (703) 305-4386. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.



Brian Tyrone Pendleton  
December 26, 2003



XU MEI  
PRIMARY EXAMINER